

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the Application of) Examiner: F. C. Conley
Guido Koch, et al.)
) Confirmation No.: 4979
on: LEG SUPPORT ARRANGEMENT)
FOR OPERATING TABLES)
)
) Group Art Unit: 3673
Serial No.: 10/534,429)
)
Filed On: May 10, 2005) (Our Docket No. 2619-0037WOUS)

Hartford, Connecticut, March 4, 2008

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF IN ACCORDANCE WITH 37 CFR 41.37

S I R:

This Appeal is taken from the Final Office Action, mailed February 6, 2007, and is in keeping with the Notice of Appeal, mailed May 9, 2007. Applicants request review of the final rejection of claims 7-11 in the above-identified application.

The present Appeal Brief is timely submitted in compliance with the Notice of Non-Compliant Appeal Brief issued February 11, 2008. Accordingly, Applicants believe that the fee for filing an Appeal Brief (37 CFR § 41.20(b)(2)), of \$500.00 has previously been charged to Deposit Account 13-0235. The fee for filing a Notice of Appeal (37 CFR § 41.20(b)(1)) was paid by Applicants when the Notice of Appeal was filed. If any additional fee is deemed necessary, Applicants hereby authorize the Commissioner to charge that fee to Deposit Account 13-0235.

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(I) Real Party in Interest

The real party in interest in the subject patent application is the assignee of the entire interest, Maquet GmbH & Co. KG of Rastatt, Germany, as evidenced by the assignment recorded with the U.S. Patent and Trademark Office on May 10, 2005 (Reel/Frame 017102/0490).

(II) Related Appeals and Interferences

There are no other Appeals or Interferences known to Applicants or Applicants' legal representative, which will directly affect or be directly affected by or have a bearing on the Board's decision on the pending Appeal.

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(III) Status of Claims

Claims 1-6 are cancelled.

Claims 7-11 are pending in the application, and stand rejected. Claim 7 is the only independent claim.

Applicants appeal the rejection of all pending claims.

(IV) Status of Amendments

A proposed amendment, presented April 5, 2007, in response to the Final Office Action of February 6, 2007, has not been entered. The proposed amendment changed the dependency of claim 10 (from claim 8 to claim 9) such that the obvious and proper antecedent bases for claim terms would be provided. The Examiner declined to enter the amendment correcting the dependency of claim 10, indicating that "they raise new issues that would require further consideration and/or search." (April 24, 2007, Advisory Action, p. 1.) All other amendments have been entered.

(V) Summary of Claimed Subject Matter

A concise explanation of the subject matter defined in each of the independent claims involved in the appeal (claim 7), referring to the specification by page and line number and to the drawings by reference characters, is presented below.

Specifically, claim 7 is directed to a leg support arrangement (FIG. 1, ref. no. 12) for an operating table with two leg supports (FIG. 1, ref. no. 14) (pg. 4 line 25-pg. 5 line 8). The leg supports are so connected with a base element (FIG. 1, ref. no. 10) of an operating table (not shown) that they are adjustable (paragraph [0020]; pg. 4 line 25-pg. 5 line 8) between a fundamental position in which they lie close to one another parallel to the longitudinal middle axis (FIG. 1, ref. no. 20) of the operating table and a spread position in which they have a spacing from the longitudinal middle axis. In particular, each leg support (FIG. 1, ref. no. 14; FIG. 6, ref. nos. 42, 46, 68, 70) is connected (paragraph [0025]; pg. 6, lines 6-22) with the base element (FIG. 1, ref. no. 10) by means of a parallelogram joint (FIGS. 5 ref. nos. 34, 50 and 36, 52, 54, 44; FIG. 6, ref. no. 34). Each leg support (FIG. 1, ref. no. 14) includes an upper leg support (FIG. 1, ref. no. 16) and a lower leg support (FIG. 1, ref. no. 18) (paragraph [0020]; pg. 4 line 25-pg. 5 line 8). Each upper leg support (FIG. 1, ref. no. 16) is connected with a connecting piece (FIGS. 5-6, ref. no. 24) by two parallelogram joint forming links (FIG. 5, ref. nos. 34, 50), to which connecting piece the first ends of the links (FIGS. 5 and 6, ref. nos. 34, 50) are pivotally connected (paragraph [0025]; pg. 6 lines 6-20) and which connecting piece (FIGS. 5-6, ref. no. 24) is pivotally connected with the base element (FIG. 1, ref. no. 10) for movement about the folding axis (FIGS. 3-4, ref. no. 22) for the upper leg support (FIGS. 1-4, ref. no. 16) (FIG. 4; paragraph [0024]; pg. 5 line 27-pg. 6 line 4). The joint axes of each parallelogram joint (FIG. 5, ref. nos. 36, 52, 54, 44) are oriented perpendicular to the plane of the base element (FIG. 1, ref. no. 10) (paragraph [0029]; pg. 7 lines 18-22). The second ends of the links (FIGS. 5-6, ref. nos. 34, 50) are pivotally connected to the upper leg support (FIGS. 1-4, ref. no. 16) onto which the folding joint (FIGS. 5-6, ref. no. 58) for the lower leg support (FIGS. 1-4, ref. no. 18) is formed (FIG. 5; paragraph [0026]; pg. 6 lines 22-28). Also, each of the upper leg supports and the lower leg supports is movable by a

folding joint about a horizontal axis (FIGS. 3-4, ref. no. 22; FIG. 5, ref. nos. 58, 60; FIG. 6, ref. no. 58) relative to the base element (FIG. 1, ref. no. 10) (paragraphs [0024]-[0026]; pg. 5 line 10-pg. 6 line 30) and each one of the upper leg support and the lower leg supports is pivotal relative to each other (FIGS. 1-4; paragraph [0029]; pg. 7 lines 10-29).

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(VI) Grounds of Rejection to be Reviewed on Appeal

1. Whether claims 7, 8 and 10-11 are properly rejected under 35 USC § 102(b) as being anticipated by Borders (US 6,202,230) (hereinafter “Borders I”).
2. Whether claim 9 is properly rejected under 35 USC § 103(a) as being unpatentable over Borders I in view of Borders (US 5,157,800) (hereinafter “Borders II”).

(VII) Argument

In all operating procedures in which the operator moves into the foot-end of the operation field, the legs of the patient lying on the operating table must be spread. In customary operating tables the leg supports are linked to the base element by means of spreading joints for pivotal movement about axes perpendicular to the operating table support surface, so that the leg supports can be pivoted about the spreading joints near the hips to provide a free space in the middle region between the leg supports. Although as a rule recesses are provided on the edges of the leg supports facing one another near the base element, the free space existing between the spread leg supports is not sufficient for all applications. (Specification, Background of the Invention, paragraph [0003], pg. 1 lines 18-25, emphasis added.)

The invention has as its object the provision of a leg support arrangement of the previously mentioned kind in which a sufficient free space can be achieved between the leg supports. This object is solved in accordance with the invention in that each leg support is connected with the base element by means of a parallelogram joint whose pivot axes are arranged perpendicular to the plane of the operating table support. In the case of the inventive solution each leg support, by means of the parallelogram joint, is displaceable parallel to itself laterally outwardly. Thereby there exists between the leg supports an essentially larger free space than would be possible with a similar spreading of the patient's legs with the customary leg supports which are movable about spreading joints near the hips. (Specification, Summary of the Invention, paragraphs [0004]-[0006], pg. 1 line 28-pg. 2 line 10, emphasis added.)

An argument under a separate heading for each ground of rejection on appeal is presented below:

Rejection under 35 USC § 102(b) of claims 7, 8 and 10-11 as being anticipated by Borders I (US 6,202,230):

Claim 7 is directed to a leg support arrangement for an operating table. Claim 7 recites, at least in part, that each leg support is connected with the base element by means of a parallelogram joint. Each leg support includes an upper

leg support and a lower leg support. The joint axes of the parallelogram joint are oriented perpendicular to the plane of the base element. Each upper leg support is connected with a connecting piece by two parallelogram joint forming links, to which connecting piece the first ends of the links are pivotally connected. The connecting piece is pivotally connected with the base element for movement about the horizontal folding axis for the upper leg support. The second ends of the two parallelogram joint links are pivotally connected to the upper leg support onto which the folding joint for the lower leg support is formed.

Brief Synopsis of Position:

Borders I fails to disclose each and every element of claim 7.

Claim 7 recites that that each leg support is connected with the base element by means of a parallelogram joint. Applicants assert that the term “parallelogram joint” is a term of art well known to persons of ordinary skill in the art, and that the ordinary and customary meaning of “parallelogram joint” is fully consistent with its description in the specification. Applicants submit that Borders I fails to disclose a parallelogram joint as claimed. Applicants further submit that the Examiner has failed to give the term “parallelogram joint” its ordinary and customary meaning.

Claim 7 further recites details concerning the parallelogram joint’s links, joint axes and connectivity. Applicants submit that the recitations of claim 7 concerning the details of the parallelogram joint’s links, joint axes and connectivity are not disclosed by Borders I. Applicants further submit that the Examiner has failed to give the term “link” its ordinary and customary meaning, and has improperly and imprecisely read Borders I on the detailed claim recitations.

Detailed Argument:

The Examiner rejected claim 7 under 35 USC § 102(b) as anticipated by Borders I. Borders I is the parent of a divisional application, now US Patent No. 6,276,012 issued to Borders, i.e. Borders 1 and the ‘012 Patent share a common specification. The ‘012 Patent was discussed in paragraph [0007] of the present specification and disclosed to the USPTO in an Information Disclosure Statement dated May 10, 2005. And in fact, the ‘012 Patent represents the prior art,

pivoting-leg-type operating table discussed in paragraph [0003] of the Background on the Invention.

The Examiner asserts that Borders I discloses a parallelogram joint. Specifically, the Examiner asserts that Borders I discloses that “each leg support is connected with the base (14, 16) by means of a parallelogram joint defined by a post 106 (fig. 11) wherein vertical joint axes (90,92)(fig. 6) are oriented perpendicular to the horizontal plane of the seat section of the base. (February 6, 2007, Final Office Action, p. 2; April 24, 2007, Advisory Action, p.2.)

Applicants respectfully submit that the Examiner is failing to give the term “parallelogram joint” its ordinary and customary meaning. According to MPEP 2111.01, during examination the words of the claim must be given their plain meaning unless the plain meaning is inconsistent with the specification. The ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art. Further, the ordinary and customary meaning of a term may be evidenced by a variety of sources, including the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence. Indeed, “claims are not to be read in a vacuum, and limitations therein are to be interpreted in light of the specification in giving them their ‘broadest reasonable interpretation’.” (*In re Marosi*, 710 F.2d 799, 802, 218 USPQ 289, 292 (Fed. Cir. 1983), internal citations omitted, emphasis in original.)

In this regard, Applicants submit that a “parallelogram joint” is a well-known type of four-bar linkage joint. In a parallelogram joint, the orientation of the coupler link remains unchanged during motion—in other words, the coupler link moves parallel to its original position. In other words, a parallelogram joint is a four-bar linkage joint that, in this instance, would allow the leg support to move parallel to itself and relative to the base element.

Referring to FIGS. 11 and 13, Borders I discloses that each leg support pivots about a vertical pivot post 106. Specifically, Borders 1 discloses that each leg support 84/88 is connected to seat section 22 with a horizontal pivot joint (around axis 112), a vertical pivot joint (around post 106), and a second horizontal pivot joint (around axis 48). (Col. 7, lines 27-35 and lines 41-42.) By themselves, or taken all together, these joints connecting the leg support 84/88 of

Borders I to the seat section 22 cause the leg support to change orientation by pivoting (i.e. not moving parallel) as it is moved.

Contrary to the Examiner's assertion, Applicants respectfully submit that Borders I's vertical pivot joint around post 106 does not constitute a parallelogram joint, as would be understood by persons of ordinary skill in the art and as defined in the specification with reference to paragraph [0025] and FIG. 5. Borders I fails to disclose any four-bar linkage joint, much less a four-bar linkage joint that provides parallel movement. Borders I fails to disclose any joint that allows the leg support to move parallel to itself or to the operating table. Thus, Applicants respectfully assert that Borders I fails to disclose that a parallelogram joint connects each leg support to the base element, as required by claim 7.

Furthermore, Applicants assert that, even if the term "parallelogram joint" was not properly given its ordinary and customary meaning of a four-bar linkage joint providing parallel motion, the recitations in claim 7 provide sufficient details concerning the parallelogram joint's links, joint axes and connectivity to distinguish over Borders I. Specifically, claim 7 requires:

- each leg support is connected with the base element by means of a parallelogram joint;
- the joint axes of the parallelogram joint are oriented perpendicular to the plane of the base element;
- each upper leg support is connected with a connecting piece by two parallelogram joint forming links, to which connecting piece the first ends of the links are pivotally connected and which connecting piece is pivotally connected with the base element; and
- the second ends of the two parallelogram joint links are pivotally connected to the upper leg support onto which the folding joint for the lower leg support is formed.

In this regard, Applicants are baffled as to why the Examiner asserts that "Applicant relies on broad structural language that fails to clearly distinguish the present invention over the prior art of record." (March 29, 2007, Interview Summary; see also April 24, 2007, Advisory Action, wherein the Examiner refers

to “Applicant’s broad structural definition” and “Applicant relies on broad structural limitations.”)

Applicants assert, as shown below, that the Examiner has inconsistently and illogically attempted to read Borders I’s structure on the claim elements.

First, Applicants submit that the claimed term “link” is also well known in the art, and that the Examiner has failed to give the term “link” its ordinary and customary meaning. A link is a rigid body connected to other elements at joints, where each joint allows relative movement between the link and the elements. This well-known understanding of the term “link” is fully consistent with its usage in the instant specification. In paragraph [0025] of the specification in conjunction with FIG. 5, Applicants disclose that “[t]he two links 34 and 50 form with their joint axes 36, 52 and 44, 54 a parallelogram joint, by means of which the connecting member 42 and with it the upper leg plate 46 can be adjusted parallel to itself without it changing its orientation in space.” Thus, consistent with the well-known usage of the term “link,” the specification explicitly discloses that link 34 of the parallelogram joint is joined at joint axis 36 to connecting piece 24 and at joint axis 44 to connecting member 42. Similarly, the specification explicitly discloses that link 50 is joined at joint axis 52 to connecting piece 24 and at joint axis 54 to connecting member 42. In light of the above, Applicants respectfully request that the Examiner give the term “link” its ordinary and customary meaning as evidenced by the specification.

The Examiner has mistakenly asserted that clevis 100 of Borders I defines the claimed two parallelogram joint forming links. (February 6, 2007, Final Office Action, p. 3.) Applicants submit that clevis 100 does not define two parallelogram joint forming links. As noted above, a link is a rigid body connected to other elements at joints. At most clevis 100 forms a single link, as clevis 100 is a single rigid body. Thus, Applicants assert that it is not possible, given the ordinary and customary meaning of the term “link,” for clevis 100 to define two parallelogram forming links.

Second, claim 7 requires that the joint axes of the parallelogram joint are oriented perpendicular to the plane of the base element. Only one of the joint axes of clevis 100 is oriented perpendicular to the plane of the base element—joint axis 90, 92 (see FIG. 6) associated with post 106. The other joint axis of clevis

100 is oriented parallel (not perpendicular) to the plane of the base element—joint axis 48. Thus, even if, *arguendo*, clevis 100 was considered to be the two parallelogram joint forming links (which Applicants refute), the joint axes are not oriented perpendicular to the plane of the base element, as required by claim 7.

In the February 6, 2007, Final Office Action, p. 5 and again in the April 24, 2007 Advisory Action, p. 2, the Examiner asserts that “the base (14, 16) of Borders is connected with each leg support by means of a parallelogram joint defined by post 106 (fig. 11) and whose vertical joint axes (90, 92)(fig. 6) are oriented perpendicular to the horizontal plane of the seat section of base and pivot axis is oriented perpendicular to the vertical plane of the pedestal 14.” The Examiner has thus recognized that the joint axes 90, 92 are vertical and joint axis 48 is horizontal. However, the Examiner has erroneously construed claim 7’s recitation of “joint axes are oriented perpendicular to the plane of the base element,” as being “joint axes are oriented perpendicular to the planes of the base element,” (one plane being horizontal, the other plane being vertical). This is clearly improper and an unreasonable construction of the claim.

Third, claim 7 requires that (1) first ends of the links pivotally connect to a connecting piece and (2) second ends of the links pivotally connect to a support upon which a folding joint for the lower leg support is formed. The Examiner has identified Borders I’s clevis 100 as the claimed “two parallelogram joint forming links” and Borders I’s first frame section 88 as the claimed “connecting piece.” (September 5, 2006, Office Action, pp. 2-3; February 6, 2007, Final Office Action, p. 3.) If, *arguendo*, Borders I’s clevis 100 forms the two parallelogram joint links, such that the first ends of the links connect to connecting piece (identified as Borders I’s frame section 88 by the Examiner), then the second end of clevis 100 must pivotally connect to a support upon which a folding joint for the lower leg support is formed in order for Borders I to read upon these claim recitations. However, as best shown in FIG. 11, the second end of clevis 100 connects to the main body of the operating table via post 106. The second end of clevis 100 does not pivotally connect to a support upon which a folding joint (i.e. around axis 52 of Borders I) for a lower leg support (i.e. frame section 90 of Borders I). Thus, contrary to the Examiner’s conclusory and illogical assertions, the Borders I structure does not read on claim 7.

For all of the above reasons, Applicants respectfully submit that claim 7 is not anticipated by Borders I. Claims 8 and 10-11 depend directly from claim 7, and the rejections thereof are improper for at least the reasons stated in connection with claim 7.

Rejection under 35 USC § 103(a) of claim 9 as being unpatentable over Borders I in view of Borders II (US 5,157,800):

Applicants' claim 9 depends from claim 7 and recites that the lower leg support includes a lower leg strut and a lower leg plate releasably connectable with the lower leg strut. The Examiner rejected claim 9 under 35 USC § 103(a) as unpatentable over Borders I in view of Borders II.

Claim 9 depends from claim 7 and contains additional recitations thereto. Applicants respectfully submit that, at the very least, Borders II also fails to disclose a parallelogram joint as required by claims 7 and 9, and thus, that Borders II fails to cure the deficiencies of Borders I.

In view of the foregoing, Applicants respectfully request favorable action regarding claims 7-11.

Entry of Proposed Amendment:

Applicants respectfully request that the proposed amendment presented April 5, 2007, in response to the Final Office Action of February 6, 2007, be entered. As discussed above, the proposed amendment changes the dependency of claim 10 (from claim 8 to claim 9) such that the obvious and proper antecedent bases for claim terms would be provided. The Examiner substantively addressed claim 10 in the Final Office Action, leading Applicants to conclude that the Examiner applied the obvious and proper antecedent bases for the substantively examined claim terms. Applicants refute the Examiner's assertion that the proposed amendment to correct the dependency of claim 10 "raise[s] new issues that would require further consideration and/or search." (April 24, 2007, Advisory Action, p. 1.)

New Rejection Raised by the Examiner in the Advisory Action for the First Time:

In the April 24, 2007, Advisory Action, p. 2, the Examiner asserted, for the first time, that Borders I would render the claim(s) obvious:

Alternatively assuming the Applicant's arguments, the Applicant argues that the "parallelogram joint" is well known and admitted prior [art, sic] hence one having ordinary skill in the art would have found it obvious to merely modify the support taught by Borders by employing a well known parallelogram joint.

Applicants disagree and respectfully submit that, at the very least, the Examiners statement of motivation—"merely modify ... by employing"—is legally insufficient.

Further, Applicants respectfully submit that this issue is not properly raised by the Examiner in an Advisory Action. At the very least, Applicants note that this new basis for rejection of the claims should not be considered a final rejection as there has been no second or subsequent examination or consideration of this rejection by the Examiner and as Applicants have not had the opportunity for a full and fair hearing to develop this matter.

The Commissioner is authorized to charge any additional fees that may be required to Deposit Account No. 13-0235.

Respectfully submitted,

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(VIII) Claims Appendix

Claims 1 – 6: Cancelled.

7. (Previously Presented) A leg support arrangement for an operating table with two leg supports, which leg supports are so connected with a base element of an operating table that they are adjustable between a fundamental position in which they lie close to one another parallel to the longitudinal middle axis of the operating table and a spread position in which they have a spacing from the longitudinal middle axis, wherein each leg support is connected with the base element by means of a parallelogram joint whose joint axes are oriented perpendicular to the plane of the base element, wherein each leg support includes an upper leg support and a lower leg support each of which is movable by a folding joint about a horizontal axis relative to the base element and are pivotal relative to one another, that each upper leg support is connected with a connecting piece by two parallelogram joint forming links, to which connecting piece the first ends of the links are pivotally connected and which connecting piece is pivotally connected with the base element for movement about the folding axis for the upper leg support, and that the second ends of the links are pivotally connected to the upper leg support onto which the folding joint for the lower leg support is formed.

8. (Previously Presented) The leg support arrangement according to claim 7, wherein the upper leg support includes a connecting member and an upper leg plate releasably connected with the connecting member, with the links being pivotally connected to the connecting member and with the folding joint for the lower leg support being formed on the connecting member.

9. (Previously Presented) The leg support arrangement according to claim 7, wherein the lower leg support includes a lower leg strut and a lower leg plate releasably connectable with the lower leg strut.

10. (Previously Presented) The leg support arrangement according to claim 8, wherein the lower leg strut is connected by a spreading joint with a joint arm which is connected with the connecting member by means of the folding joint for the lower leg support, with the axis of the spreading joint being oriented perpendicular to the axis of the folding joint and perpendicular to the plane of the lower leg support plate.

11. (Previously Presented) The leg support arrangement according to claim 7, wherein the connecting piece is insertable into a receiver fixed to the operating table, which receiver is part of the folding joint for the upper leg support.

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(IX) Evidence Appendix

None.

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(X) Related Proceedings Appendix

None.